

REMARKS

This Amendment is submitted in response to the Office Action dated December 5, 2003, having a shortened statutory period set to expire March 5, 2004. In the present Amendment, Claims 1, 6, 11, 16 and 21 are amended and Claims 23-24 are added. Claims 1-9 and 11-24 are now pending.

Applicants note with appreciation that Claim 22 has been allowed. New Claims 23 and 24 incorporate the allowed features of Claim 22 in respective method and computer program product claims, and thus should also be allowed.

REJECTIONS UNDER 35 U.S.C. § 102 and 103

In paragraph 4 of the present office action, the Examiner has rejected Claims 1, 6, 11, 16 and 21 under 35 U.S.C. § 102(e) as being anticipated by Voigt et al. (U.S. Patent No. 6,055,604 – "Voigt"). In paragraph 6 of the present office action, the Examiner has rejected Claims 2, 7, 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Voigt in view of Blumenau (U.S. Patent No. 6,151,665 – "Blumenau"). In paragraph 7 of the present office action, the Examiner has rejected Claims 1, 6, 11, 16 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ohran (U.S. Patent No. 6,397,307 B2 – "Ohran") in view of Burkes et al. (U.S. Patent No. 5,542,065 – "Burkes"). In paragraph 8 of the present office action, the Examiner has rejected Claims 2, 7, 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Ohran in view of Burkes and further in view of Blumenau. Applicants respectfully traverse these rejections.

With regards to exemplary Claim 1, the cited prior art does not teach or suggest "detecting a memory exhaustion condition in said first region of physical memory while said second region of physical memory is mirroring at least part of said first region" and then responsively "deactivating memory mirroring between said first and second regions" in order to augment "said first region with at least part of said second region, such that said memory exhaustion condition is eliminated." That is, the cited prior art does not teach or suggest reallocating space in a second region of physical memory, which space was being used to mirror data in the first region, to expand the storage capacity of the memory.

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With regards to the Section 102 rejections, *Voigt* teaches two NVRAMs 21, which are mirror (each being a backup of the other) copies of transaction logs. When a page of the log reaches a page-full status, then the page is stored to a disk log on a disk in a RAID (*Voigt* col. 2, lines 3-11). The disk log (or the disk itself) does not mirror the transaction log. Periodically storing a copy of a file (transaction log) to another location (disk log) is not mirroring. As defined in the "IBM Dictionary of Computing," the term "mirroring" means "the process of writing the same data to two disk units within the same auxiliary storage pool at the same time" (copy attached, emphasis added). There is no teaching or suggestion in *Voigt* that the disk log mirrors the transaction log, and thus there is no teaching or suggestion that "said second region of physical memory is mirroring at least part of said first region" of physical memory. Therefore, the Section 102 rejections should be withdrawn.

With regards to the Section 103 rejections, *Ohran* teaches RAID Level 1 disk mirroring. *Burkes* teaches converting space on a disk used for another RAID Level (such as use for a parity bit in a RAID Level 5 system) to one used for mirroring (RAID Level 1). There is no teaching or suggestion of a physical memory overflowing and commandeering space previously used by its mirror copy. That is, there is no teaching or suggestion of "deactivating memory mirroring" in the second region and "augmenting said first region with at least part of said second region." Thus, the Section 103 rejections should be withdrawn.

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MAR-04-2004 THU 05:29 PM Dillon & Yudell

CONCLUSION

As the cited prior art does not teach or suggest all of the limitations of all pending claims, Applicants respectfully request a Notice of Allowance for all pending claims.

The present amendment adds two new independent claims, for which a fee of \$168.00 is due. Please charge this fee to IBM CORPORATION Deposit Account No. 50-0563.

No extension of time for this response is believed to be necessary. However, in the event an extension of time is required, that extension of time is hereby requested. Please charge any fee associated with an extension of time as well as any other fee necessary to further the prosecution of this application to IBM CORPORATION Deposit Account No. 50-0563.

Respectfully submitted,

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mirror transaction

control field that is of less significance than the major Д control control field minor device number In the AIX operating system, a number that specifies varions types of information about a particular device; for example, a number that distinguishes between several printers of same type. See major device number. minor node In VTAM, a uniquely defined resource within a major node. See also major node. minor tick in the AS/400 Business Graphics Utility, one of the marks located between major ticks on an axis of a chart. See also major tick minor time slice In TSO, the time within a major time slice when a terminal job has the highest priority for execution. See also major time slice. minor total The result obtained when a summation is erminated by the least significant change of group.

minuend In subtraction, the number or quantity from or quantity is subtracted which another number €

Note: Minuend - subtrahend = result.

MIOCB Master I/O control block.

A unit of to Otto measure of processing performance equal MIPS Millions of instructions per second. million instructions per second. (T) mirrored pair Two units that contain the same data and are referred to by the system as one entity.

tion that protects data by duplicating all disk data in (mirrored unit) in the same ASP. If a disk failure occurs, the system keeps running, using the mirrored unit of the mirrored pair until the disk unit is repaired mirrored protection In the AS/400 system, a funcan auxiliary storage pool (ASP) to another disk unit or replaced. See also mirrored pair, mirrored unit mirrored unit In the AS/400 system, one of the units of a mirrored pair of units. mirror image In a document copying machine, an image that has its parts positioned as if the original Contrast with rightwere viewed in a mirror. (T) reading image. mirroring (1) In computer graphics, turning all or part of a display image 180 degrees about an axis in (2) in the AS/400 system, the process of writing the same data to two disk units within the same auxiliary the plane of the display surface. (T) See Figure 97.

nor record class a record during very utility, the

najor class field

two disk units become a mirrored pair, allowing the system to conimue when one of the mirrored units fails. See also Ę storage pool at the same time. mirrored pair, mirrored unit.

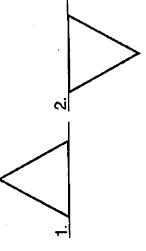


Figure 97. Mirroring

transaction processing systems to perform remote program that executes a request sent to it from another nating transaction processing system a response code The mirror transaction enables CICS/VS transaction transaction processing system, and returns to the origiand any control fields and data associated with the æ transaction In CICS/VS, esource access. request.

MIS Management information system. (A)

miscellaneous data record (MDR) A record of a network hardware error recorded by the NCP and sent Then the VTAM program writes the error on the operto the VTAM host that owns the failing component. ating system error data set.

cepting single-address messages containing a nonvalid call directing code or intercepting multiple-address nessages without a proper multiple-address code. See graph message-switching systems, the act of intermiscellaneous intercept In Bell System leased telealso willful intercept miscellaneous time That part of operating time that is not system production time, system test time, or remn time. Miscellancous time is typically used for demonstrations, operator training, or other such purposes. Synonymous with incidental time. (T)

an expected interrupt fails to occur in a preset time MVS/XA facility that keeps track of I/O interrupts, informing the operator and creating a record whenever missing-interrupt handler (MIH) An MVS and

missing page interruption Synonym for page fault

missing pulse A pulse whose level cannot b recorded. (T) (A)

MAR-04-2004 (2) Contrast with error mistake (1) A human action that produces tended result. (T)

that may be grouped and purchased, often f count price; for example, \$0.50 items that purchased in a mixture at 3 for \$1.39. mix In multimedia applications, the combit mix and match Pertaining to different kinds rudio or video sources during postproduction.

THU 05:29

Ħ ğ notation Synonym numeration system. mixed-base

base and if x represents an intervente of 554 in such a numeration represents the number given by 6 xyb + 5 xb EV freedress the number given by 6 xyb + 5 xb EV freedress numeration system is the particular a mixed-base numeration system in which, 1 EV ferms are ordered so that their bases are in de O PM Dillon & Yudell numeral 654 in such a numeration system in C the number given by $6r^3b + 5rb + 4b$. (1) (A) Ca given application but the bases being such 1 and a base, the base of a given term being con are not necessarily integral ratios between the all the terms; for example, with bases b_0 , band b_1 and mantissas 6, 5, and 4, the number adjacent terms, but not the same ratio in ea bases of all pairs of adjacent terms; thus if mixed-base numeration system A numeratio in which a number is represented as the s series of terms each of which consists of a ented is given by 6b. +5b. +4b. A mi: integers, the numeral 654 in such a numeratio ordered so that their bases are in descending magnitudes, there is the same integral ratio base numeration system in which, when the tudes, there is an integral ratio between the thus, if the smallest base is b and if x and y numeration system is the particular case of ymous with mixed-base notation. smallest

6446 example, the overlaying of a line chart on a b: than one type of chart in a business cha mixed chart In GDDM, the combination

set, message data set, RUE data set, and aber-data set. mixed data sets are the print data set, progs set, transaction data set, transmit data set, pr DPCX whose indexes are contained in syste and whose records are contained in user spa mixed data set In DPCX, a data set

mixed data string in SQL, a character string to contain both single-byte and double-byte chara